Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**	
Title	REG-RSP TLV encodings in RNG-RSP message	
Date Submitted	**2005-05-01**	
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Abstract	For HO optimization the Target BS may include SBC-RSP and REG-RSP TLV encodings in RNG-RSP (conditional, depends on 'HO process optimization' bitmap value). This is solicited in the body text of the draft, but is not reflected in the RNG-RSP TLV encodings description in chapter 11, table 367a.	
Purpose	Add explicit text to RNG-RSP message TLV encodings table 367a to include SBC-RSP and REG-RSP message items	
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REG-RSP TLV encodings in RNG-RSP message

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1. Motivation

Optimized HO procedure allows omission of some or all phases of the NW re-entry process. To accommodate for that, the Target BS may send a RNG-RSP message with concatenated, unsolicited REG-RSP and SBC-RSP messages or send REG-RSP and SBC-RSP specific message items as TLVs in the RNG-RSP message. One example of such TLV is CID update (remapping).

Currently, this is described in the standard but not reflected in the message TLV encodings part, and leaves it up to the interpretation of the reader.

2. Proposed Remedy

We propose to clarify the standard by adding explicitly that the RNG-RSP message, which is transmitted by the target BS during handover, may include:

- SBC-RSP TLV encodings, when HO Process Optimization bit#8 = 1
- REG-RSP TLV encodings, when HO Process Optimization bit#9 = 1

3. Changes summary

[In IEEE P80216e_D7 – 11.6 RNG-RSP TLVs for re-establishment of service flows] modify as follows:

Table 367a—RNG-RSP message encodings

Name	Type	Length	Value (variable-length)
Service Level Prediction	(1 byte)	1	This value indicates the level of service the MS can expect from this BS. The following encodings apply: 0 = No service possible for this MS 1 = Some service is available for one or several service flows authorized for the MS. 2 = For each authorized service flow, a MAC connection can be established with QoS specified by the AuthorizedQoSParamSet. 3 = No service level prediction available.
Global Service Class Name	17	4	—
QoS Parameters	18	variable	Compound TLV incorporating one or more 11.13 QoS Parameter Set definition encodings
SFID	[145/146]	4	—
Resource Retain Flag	variable	1	This value indicates whether the former serving BS retains the connection information of the MS. 0 = the connection information for the MS is deleted 1 = the connection information for the MS is retained

HO Process Optimization	[145/	2	For each Bit location, a value of '0' indicates the associated re-entry management messages shall be required, a value of '1' indicates the re-entry management message may be omitted. Bit #0: Omit SBC-REQ management messages during current re-entry processing Bit #1: Omit PKM Authentication phase except TEK phase during current re-entry processing Bit #2: Omit PKM TEK creation phase during re-entry processing Bit #3 : Omit Network Address Acquisition management messages during current reentry processing Bit #4 : Omit Time of Day Acquisition management messages during current reentry processing Bit #5 : Omit TFTP management messages during current re-entry processing Bit #6 : Full service and operational state transfer or sharing between Serving BS and Target BS (ARQ, timers, counters, MAC state machines, etc…) Bit #7 : post-HO re-entry MS DL data pending at Ttarget BS Bit #8 : BS shall send an unsolicited SBC-RSP management message with updated capabilities information during current re-entry processing Bit #9 : BS shall send an unsolicited REG-RSP management messages with updated capabilities information during current re-entry processingBit Bit #10 : BS shall send an unsolicited REG-RSP management messages with updated capabilities information during current re-entry processingBit #11-15 : Reserved 3

Table 367a—RNG-RSP message encodings *(continued)*

Name	Type (1 byte)	Length	Value (variable-length)
HO ID	22	1	ID assigned by the target BS for use in initial ranging during MS handover to it (see 6.3.20.5)
If (HO Process Optimization[bit#8]==1) {			
SBC-RSP encodings	29	variable	SBC-RSP TLV items for HO optimization
}			
If (HO Process Optimization[bit#9]==1) {			
REG-RSP encodings	30	variable	REG-RSP TLV items for HO optimization
}			
Location Update Response	23	1	0x00= Failure of Location Update. The MS shall perform Network Re-entry from Idle Mode 0x01= Success of Location Update 0x10, 0x11: Reserved
Paging Information	24	4	Paging Information shall only be included if Location Update Response=0x01 and if Paging Information has changed Bits 15:0 - PAGING_CYCLE - Cycle in which the paging message is transmitted within the paging group Bits 23:16 – PAGING OFFSET – Determines the frame within the cycle in which the paging message is transmitted. Must be smaller than PAGING CYCLE value Bits 31:24 – Paging Group ID - ID of the paging group the MS is assigned to
Paging Controller ID	25	6	This is a logical network identifier for the Sserving BS or other network entity retaining MS service and operational information and/or administering paging activity for the MS while in Idle Mode. Paging Controller ID shall only be included if Location Update Response=0x01 and if Paging Controller ID has changed

MAC Hash Skip Threshold	28	1	Maximum number of successive MOB_PAG-ADV messages that may be sent from a BS without individual notification for an MS, including MAC address hash of an MS for which Action Code for the MS is 00, 'No Action Required'. If BS does not include this TLV item in the RNG-RSP message, any BS may omit MAC Address Hash of the MS with Action Code 00, 'No Action Required' from any MOB_PAG-ADV message.
Next Periodic Ranging	25	2	This value indicates offset of the frame in which the periodic ranging will be performed with respect to the frame where RNG-RSP is transmitted. This TLV encoding is included in RNG-RSP message only when its ranging status is 'success'. If MS receives RNG-RSP message with 'Next Periodic Ranging' = 0, it shall terminate Sleep Mode and return to Normal Operation.
Power_Saving_Class_Parameters	—	variable	Compound TLV to specify Power Saving Class definition and/or operation